

**REMARKS**

Claims 11-22 were previously pending in the application. This Amendment amends claims 13 and 22. Claims 11, 12, and 14-21 remain unchanged. Claims 11 and 15 are independent.

**The Rejections under 35 U.S.C. § 112, second paragraph**

The Office Action rejects claims 21 and 22 under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 21**

Regarding claim 21, the Office Action notes that claim 21 recites "whereby an operator can add cleaning agents during the cleaning operation on the basis of an indicated concentration." However, claim 1 recite "a dosing device that alternately supplied additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value..." The Office Action asserts that it is unclear how a user would add cleaning agents if they are to be automatically added by a dosing device, rendering this claim indefinite.

Applicants respectfully traverse this rejection.

M.P.E.P. § 2173.02 sets out the standard for complying with 35 U.S.C. § 112, second paragraph:

The essential inquiry pertaining to the requirement under 35 U.S.C. § 112, second paragraph, is 'whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) the content of the particular application disclosure; (B) the teachings of the prior art; and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.'

Claim 11 recites a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active

substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value. Claim 21 recites a device for displaying values relating to the content of washing-active substances in the cleaning liquid determined by the sensor, whereby an operator can add cleaning agents during the cleaning operation on the basis of an indicated concentration.

Applicants respectfully submit that the present invention does not preclude an operator adding cleaning agents during the cleaning operation on the basis of an indicated concentration, as recited in claim 21, in addition to a dosing device that supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value, as recited in claim 11.

Indeed, the Office Action does not provide any explanation as to why a user could not add cleaning agents to the washing liquid in addition to additional cleaning agent supplied to the washing liquid by the dosing device. Thus, the Office Action has not established a prima facie case.

For at least these reasons, claim 21 is clear and definite. Applicants respectfully request withdrawal of this rejection.

#### **Claim 22**

This Amendment amends claim 22 to depend from claim 21, thereby overcoming this rejection. Claim 22 particularly points out and distinctly claims the subject matter which applicant regards as the invention.

For at least these reasons, claim 22 is clear and definite. Applicants respectfully request withdrawal of this rejection.

#### **The Claimed Invention**

Conventional appliances sometimes are operated in a manner in which a fixedly pre-determined amount of washing or rinsing agents is added to a cleaning liquid and this brings with it the disadvantage that, during the washing or rinsing process, the quantity of

washing or rinsing agent poured into the appliance by the user is completely used and consumed without taking into account the quantity of washing and rinsing agent actually required. Dishwashers are known in which the water hardness of the cleaning liquid is determined by suitable sensors to determine the amount of rinse aid added at the end of the rinsing program. However, other crucial criteria for the quantity of cleaning agent required, such as for example, the loading state of the dishwasher or the type of contamination of the items to be cleaned are not taken into account.

The present invention as exemplified by, for example, an exemplary embodiment recited in independent claim 11 of the present application, relates to an appliance operable to carry out at least one cleaning process using cleaning liquid. The appliance includes an assembly for placing into contact with one another a cleaning liquid and at least one item to be cleaned. Also, the appliance includes a system for supplying cleaning agent into the cleaning liquid, the system including a sensor that determines the content of washing-active substances in the cleaning liquid during the cleaning process and a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value.

The present invention as exemplified by, for example, another exemplary embodiment recited in independent claim 15 of the present application, relates to a method for operating an appliance operable to carry out at least one cleaning process using cleaning liquid, the method comprising the steps of determining the content in a cleaning liquid of washing-active substances that are supplied therein via the supply of cleaning agent into the cleaning liquid by a cleaning agent supply system; supplying additional cleaning agent to the cleaning liquid in the event that the content of washing-active substances is determined to be below a predetermined lower value; and supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is determined to be above a predetermined upper value.

In this manner, the present invention determines the content of washing-active substances in the cleaning liquid continuously during the cleaning process and, on this basis, regulates the addition of cleaning agents to the cleaning liquid independently of influences such as the degree of contamination, temperature and water hardness in order to achieve the optimal content of washing active substances in the cleaning liquid. Thus, both under-dosing with inadequate cleaning effect and also over-dosing with negative economical and ecological consequences can be avoided. In this way, the cleaning performance and the consumption of resources are optimised and the environmental influences are minimised. See, e.g., page 3, lines 25-30, and page 4, lines 1-5.

#### **The Rejections under 35 U.S.C. § 102**

In the Office Action, claims 11, 12, 15, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by the Vogel reference (U.S. Patent No. 5,725,001). Claims 11, 15, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by the Johnson reference (U.S. Patent No. 2,968,172 (sic)).

Applicants respectfully traverse these rejections.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. [...] The identical invention must be shown in as complete detail as is contained in the ... claim." M.P.E.P. § 2131.

#### **The Rejection over the Vogel reference**

Applicants respectfully submit that the Vogel reference does not disclose the features of the claimed invention including a sensor that determines the content of washing-active substances in the cleaning liquid during the cleaning process and a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of

washing-active substances is above a predetermined upper value, as recited by independent claim 11.

As explained above, these features are important for avoiding both under-dosing with inadequate cleaning effect and also over-dosing with negative economical and ecological consequences. In this way, the cleaning performance and the consumption of resources are optimised and the environmental influences are minimised. See, e.g., page 3, lines 25-30, and page 4, lines 1-5.

The Vogel reference very clearly does not disclose these features. Instead, the Vogel reference discloses only dispensing additional detergent until the pH reaches the value for the program being run. The Vogel reference does not disclose supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited by independent claim 11.

The Office Action alleges that the Vogel references teaches this feature by disclosing that an extra rinse cycle with fresh water is run by the program control. See col. 2, lines 20-31. However, contrary to the assertions in the Office Action, Applicants respectfully submit that running an additional rinse cycle after the washing process is completed clearly has nothing to do with determining the content of washing-active substances in the cleaning liquid during the cleaning process and supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited in claim 11.

The Vogel reference very clearly explains that the extra rinse cycle is run to partially neutralize any residual alkalinity that exists on the dishes after the washing cycle is completed. See, e.g., col. 2, lines 19-31. The extra rinse cycle has nothing to do with the content of washing-active substances in the cleaning liquid *during* the cleaning process. Indeed, the extra rinse cycle has nothing to do with preventing over-dosing during the washing cycle. Instead, the Vogel reference simply provides a method that deals with the consequences of over-dosing (e.g., partially neutralize any residual alkalinity that exists on the dishes) after the washing cycle is completed.

Thus, the Vogel reference does not disclose at least a sensor that determines the content of washing-active substances in the cleaning liquid during the cleaning process and a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited by independent claim 11.

For the same reasons, the Vogel reference does not disclose at least a method comprising determining the content in a cleaning liquid of washing-active substances that are supplied therein via the supply of cleaning agent into the cleaning liquid by a cleaning agent supply system; supplying additional cleaning agent to the cleaning liquid in the event that the content of washing-active substances is determined to be below a predetermined lower value; and supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is determined to be above a predetermined upper value, as recited in claim 15.

As explained above, these features are important for avoiding both under-dosing with inadequate cleaning effect and also over-dosing with negative economical and ecological consequences. In this way, the cleaning performance and the consumption of resources are optimised and the environmental influences are minimised. See, e.g., page 3, lines 25-30, and page 4, lines 1-5.

For at least the foregoing reasons, the Vogel reference does not disclose all of the features of the claimed invention.

Applicants respectfully request withdrawal of this rejection.

### **The Rejection over the Johnson reference**

Applicants respectfully submit that the Johnson reference does not disclose the features of the claimed invention including a sensor that determines the content of washing-active substances in the cleaning liquid during the cleaning process and a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the

event that the sensed content of washing-active substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited by independent claim 11.

As explained above, these features are important for avoiding both under-dosing with inadequate cleaning effect and also over-dosing with negative economical and ecological consequences. In this way, the cleaning performance and the consumption of resources are optimised and the environmental influences are minimised. See, e.g., page 3, lines 25-30, and page 4, lines 1-5.

The Johnson reference very clearly does not disclose these features. Instead, the Johnson reference discloses only that rinsing water is added during the rinsing cycle until a predetermined minimum detergency condition develops in the rinsing liquid, at which time the Johnson reference terminates the rinsing cycle. Indeed, the Office Action acknowledges that the Johnson reference teaches controlling *the rinsing cycle*.

Contrary to the assertions in the Office Action, the Johnson reference does not disclose, however, supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited by independent claim 11.

Applicants respectfully submit that adding rinsing water during the rinsing cycle until a predetermined minimum detergency condition develops in the rinsing liquid, at which time the Johnson reference terminates the rinsing cycle, clearly has nothing to do with determining the content of washing-active substances in the cleaning liquid during the cleaning process and supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited in claim 11.

The Johnson reference very clearly explains that adding rinsing water during the rinsing cycle until a predetermined minimum detergency condition develops in the rinsing liquid, and then terminating the rinsing cycle results in assuring complete and proper rinsing with a minimum amount of rinse water. See col. 5, lines 60-63.

Thus, the Johnson reference does not disclose at least a sensor that determines the content of washing-active substances in the cleaning liquid during the cleaning process and a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited by independent claim 11.

For the same reasons, the Johnson reference does not disclose at least a method comprising determining the content in a cleaning liquid of washing-active substances that are supplied therein via the supply of cleaning agent into the cleaning liquid by a cleaning agent supply system; supplying additional cleaning agent to the cleaning liquid in the event that the content of washing-active substances is determined to be below a predetermined lower value; and supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is determined to be above a predetermined upper value, as recited in claim 15.

As explained above, these features are important for avoiding both under-dosing with inadequate cleaning effect and also over-dosing with negative economical and ecological consequences. In this way, the cleaning performance and the consumption of resources are optimised and the environmental influences are minimised. See, e.g., page 3, lines 25-30, and page 4, lines 1-5.

For at least the foregoing reasons, the Johnson reference does not disclose all of the features of the claimed invention.

Applicants respectfully request withdrawal of this rejection.

### **The Rejections under 35 U.S.C. § 103**

In the Office Action, claims 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Johnson reference in view of Mueller-Kirschbaum et al. reference (U.S. Patent No. 5,404, 606). Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Vogel reference in view of the Buttner et al. reference (GB



2052251 A ). Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Vogel reference in view of the Livingston et al. reference (U.S. Patent No. 4,509,543).

Applicants respectfully traverse this rejection.

Applicants respectfully submit that neither the Vogel reference nor the Johnson reference discloses or suggests the features of the claimed invention including a sensor that determines the content of washing-active substances in the cleaning liquid during the cleaning process and a dosing device that alternately supplies additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value and supplies fresh water to the cleaning liquid in the event that the content of washing-active substances is above a predetermined upper value, as recited by independent claim 11.

For the same reasons, neither the Vogel reference nor the Johnson reference discloses or suggests a method comprising determining the content in a cleaning liquid of washing-active substances that are supplied therinto via the supply of cleaning agent into the cleaning liquid by a cleaning agent supply system; supplying additional cleaning agent to the cleaning liquid in the event that the content of washing-active substances is determined to be below a predetermined lower value; and supplying fresh water to the cleaning liquid in the event that the content of washing-active substances is determined to be above a predetermined upper value, as recited in claim 15.

As explained above, these features are important for avoiding both under-dosing with inadequate cleaning effect and also over-dosing with negative economical and ecological consequences. In this way, the cleaning performance and the consumption of resources are optimised and the environmental influences are minimised. See, e.g., page 3, lines 25-30, and page 4, lines 1-5.

None of the applied references makes up for the deficiencies of the Vogel reference or the Johnson reference. Indeed, the Office Action does not rely on these references for teaching these features of claims 11 and 15.

Thus, none of the applied references discloses or suggests the subject matter defined by independent claims 11 and 15.

Applicants respectfully request withdrawal of these rejections.

**CONCLUSION**

In view of the above, entry of the present Amendment and allowance of Claims 11-22 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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